

Unscheduled Stop in Hotlanta

By Lt. Christopher P. Penn

My scenario started when the wing asked if any squadron wanted to provide a static display for an airshow at Seymour Johnson Air Force Base. I asked my fellow junior officers if they were interested but couldn't find a pilot who was available.

I still wanted to go, so I asked a friend from a sister squadron. I wasn't sure if my skipper would buy off on the plan, but it was worth a shot. To my surprise, the skipper approved my request. He said I could take any pilot, as long as I signed for the plane. Great! We had a crew, and we were set for the weekend.

The crew brief covered all phases of the flight. The plan was to fly the first leg to NAS Pensacola, stop to refuel, grab lunch, and then relaunch for the second leg into Seymour Johnson. We looked at the aircraft-discrepancy book (ADB) as a crew; the aircraft was up. The man-up, preflight, start, and taxi went smoothly, as expected.

Unlike my copilot's sister squadron, we had the oldest E-2C version in the fleet. This fact readily became apparent when my trusty copilot had difficulty getting the carrier-airborne-inertial-navigation system (CAINS) to work. His squadron did not have the CAINS system; however, this was a minor issue because I had a good GPS-navigation source and a TACAN. I remembered thinking, however, I should have briefed CAINS operability in more detail. That detail had been lost in our zeal to get on the road. Even though I just unwittingly had thrown my Hawkeye 2000 copilot back into the stone ages with our older navigation system, I felt we could overcome this hurdle with a little crew resource management (CRM).

We took off from Norfolk and started our first leg to sunny Pensacola. After getting to our final altitude and allowing my copilot to get comfortable with the CAINS, everything was set. The flight was going roughly as planned. We barely had reached the halfway point and

were over Atlanta when our problems started. Out of nowhere, the right propeller began to surge and make audible pitch changes. The right turbine-measured-temperature (TMT) gauge began to fluctuate wildly. So, I elected to go through the engine-propeller-fluctuation emergency procedure. With no electronic-propeller-control (EPC) light, and the propeller auto-feather switch already turned off, I reduced the power lever on the right side to about half quadrant. I then placed the digital engine control (DEC) to limiting. The TMT reading settled back to within limits.

We discussed what had occurred and decided to continue on our way. The fluctuations returned just five minutes later. I immediately placed the DEC in off. The TMT kept jumping around, and the propeller made small, audible pitch changes. In the face of these challenges, crew coordination could not have worked better. We immediately decided to divert into Dobbins Air Reserve Base (ARB) at Atlanta.

The copilot began to work the divert. Meanwhile, the CICO in the back of the aircraft already had broken out his PCL. He started to go over the engine-propeller emergency with me by reading the notes, cautions and warnings. As a crew, we decided to leave the right power

lever at flight idle and only use it during the landing, if needed. The audible propeller fluctuations had gone away, and other than having the DEC off, everything else seemed normal.

We received our clearance from Atlanta Center to proceed to Dobbins ARB, and we soon were on final. When we touched down, both power levers were moved to flight idle and both BETA lights illuminated, which is a positive indication that reverse thrust is available. However, as I began to pull the power levers into the BETA range, the BETA on the right side was not available. The resulting asymmetrical thrust caused the aircraft to swerve violently to the left.

I quickly pulled the power levers out of the BETA range and into the ground range. I grabbed the nose-wheel steering to stop the aircraft from going any farther left and told the copilot to secure the right engine. I immediately received concurrence from the copilot to secure the right engine, and we brought the aircraft back to runway center. We finished the roll-out and taxied clear of the active runway. When the wheels were chocked, we shut down the left engine. We were grateful to have maintained control of the aircraft and prevented it from departing the runway.

The availability of BETA clearly was indicated in the cockpit by the illumination of the BETA lights. The new propeller 2000 (NP2000) system states the presence of BETA lights means reverse thrust should be available. We clearly were in uncharted waters. We later discovered that while the EPC monitors several aspects of the propeller system, it does not monitor or recognize every malfunction that may exist.

The maintenance rescue team arrived the next day and discovered a failed actuator-valve module (AVM). Nothing in the cockpit had indicated a failed AVM was

the root of our problem. The AVM had failed so badly that, when shaken by a maintainer, the broken parts sounded like a maraca. With an unrecognized AVM failure, the blade angle on the right propeller never had changed. When we retarded the power levers into the BETA range, we caused asymmetrical thrust and the resultant abrupt swerve.

We did everything right, yet still came close to departing the runway.

While the NP2000 system continues to be a challenge for the Hawkeye community, the crux of this article can be applied to any aviation platform. It all starts in the brief. The copilot was not in my squadron and never had flown with me before, so we made sure we briefed the standard NATOPS material and reviewed all the major emergencies procedures. While we encountered some minor idiosyncrasies because of the differences in model Hawkeyes our respective squadrons fly, we overcame them through the incorporation of basic fundamentals of ORM and CRM.

Finally, this experience taught us the importance of knowing standard NATOPS procedures. Because we knew our procedures cold, it allowed us to remain flexible in an unforeseen situation and to minimize the impact of the unexpected AVM failure. I was glad we had covered fundamental emergency procedures in our brief. When confronted by an unforeseen problem on landing, we were not in a position to discuss it, only to act as a crew to prevent the aircraft from departing the runway—as we briefed. 🦅

Lt. Penn flies with VAW-124.



Composite image.